ELECTRICAL ABBREVIATIONS

+	DEVICE MOUNTED ABOVE TYPICAL HEIGHT. REFER TO ARCHITECTURAL ELEVATIONS FOR DEVICE MOUNTING HEIGHT.
1PH	SINGLE-PHASE
1P	SINGLE POLE
2/C	TWO-CONDUCTOR
3/C	THREE-CONDUCTOR
3PH	THREE-PHASE
4/C	FOUR-CONDUCTOR
4W	FOUR-WIRE
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AAP	ALARM ANNUNCIATOR PANEL
AC	ALTERNATING CURRENT OR ARMORED CABLE
ACC	ACCESSIBLE
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJOINING
ADO	AUTOMATIC DOOR OPENER
AF	AMPERE FRAME OR AMP FUSE
AFC	ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AH	AMPERE HOUR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
AMB OR A	AMBIENT
AMP	AMPERE
ARCH	ARCHITECT
ASC	AMPS SHORT CIRCUIT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIO VISUAL
BAT	BATTERY
BC	BARE COPPER
BD	BOARD
BFF	BELOW FINISH FLOOR
BIL	BASIC INSULATION LEVEL
BLDG	BUILDING
BPIP	BOILER PLANT INSTRUMENTATION PANEL
BRKR	BREAKER
BYP	BY PASS
C	CONDUIT
CAB	CABINET
CALC	CALCULATE
CAP	CAPACITY
CAT	CATALOG
CATV	COMMUNITY ANTENNA TELEVISION
CCR	CONTROL CONTACTOR
CCTV	CLOSED CIRCUIT TELEVISION
cd	CANDELA
CD	CONSTRUCTION DOCUMENTS
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CF/OI	CONTRACTOR FURNISHED/OWNER INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COAX	COAX CABLE
COMM	COMMUNICATION
COMPT	COMPARTMENT
CONC	CONCRETE
CONT	CONTINUE
CONTR	CONTRACTOR
COORD	COORDINATE
CPT	CONTROL POWER TRANSFORMER
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CTV	CABLE TELEVISION
CU	COPPER
CU FT	CUBIC FEET
CUR	CURRENT
DB	DECIBEL OR DIRECT BURIAL
DC	DIRECT CURRENT
DCP	DIMMER CONTROL PANEL
DEG C	DEGREES CELSIUS
DEG F	DEGREES FAHRENHEIT
DEMO	DEMOLITION
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DISTR PNL	DISTRIBUTION PANEL
DMR SW	DIMMER SWITCH
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DRSW	DOOR SWITCH
DS	DISCONNECT SWITCH
DWG	DRAWING

(E)	EXISTING
EC	EMPTY CONDUIT
EG	EQUIPMENT GROUND
EL	ELEVATION
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPO	EMERGENCY POWER OFF
EPRF	EXPLOSION PROOF
(ER)	EXISTING TO BE RELOCATED
ESMT	EASEMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FABL	FIRE ALARM BELL
FABX	FIRE ALARM BOX
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLE
FI	FILM ILLUMINATOR
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
FLT	FLOODLIGHT
FLUOR	FLUORESCENT
FLUOR FIX	FLUORESCENT FIXTURE
FOUTT	TELEPHONE FLOOR OUTLET
FP	FIRE PROTECTION
FT	FEET OR FOOT
FU SW	FUSED SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
G OR GND	GROUND OR GENERATOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GTB	GROUND TERMINAL BOX
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HT	HEIGHT
HZ	HERTZ
IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
IR	INFRARED
IWH	INSTANTANEOUS WATER HEATER
J-BOX	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT AMPERE
kVAH	KILOVOLT AMPERE PER HOUR
kVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
kWH	KILOWATT HOUR
kWHM	KILOWATT HOUR METER
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET (FOOT)
LM	LUMEN
LP	LIGHT POLE
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LTCP	LOCAL TEMPERATURE CONTROL PANEL
LT	LIGHT
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MC	METAL-CLAD
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MG	MOTOR GENERATOR
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MVA	MEGAVOLT-AMPERE
MW	MEGAWATT MICROWAVE

(N)	NEW
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT OR N	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NS	NO SCALE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PANELBOARD, PULL BOX, OR PUSHBUTTON
PBPU	PREFABRICATED BEDSIDE PATIENT UNIT
PCB	POLYCHLORINATED BIPHENYL
PEC	PHOTOELECTRIC CELL
PED	PEDESTAL
PEND	PENDANT
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
POD	POWER OPERATED DAMPER
POE	POWER OVER ETHERNET
PT	POTENTIAL TRANSFORMER
PTRV	POWER TYPE ROOF VENTILATION
PVC	POLYVINYL CHLORIDE (PLASTIC)
PWR	POWER
(R)	REMOVE
RCP	REFLECTED CEILING PLAN
(RE)	RELOCATED EXISTING
REC	RECESSED
RECPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
REQD	REQUIRED
RTE	REQUEST TO EXIT
SCC	SHORT CIRCUIT CAPACITY
SES	SERVICE ENTRANCE SECTION
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SHT	SHEET
SI	INTERNATIONAL SYSTEM OF UNITS
SPEC	SPECIFICATION
SPST	SINGLE POLE, SINGLE THROW
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME CLOCK
TEL	TELEPHONE
TMP	TAMPER PROOF
TP	TWISTED PAIR
TPS	TWISTED PAIR SHIELDED
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
UFD	UNDERFLOOR DUCT
UGND	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
VOLT	VOLTAGE
W	WATT
WH	WATER HEATER
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER

ELECTRICAL SYMBOLS

MOTOR, SINGLE-PHASE

MOTOR, THREE-PHASE

TRANSFORMER

EARTH GROUND

JUNCTION BOX

PB PULL BOX

DISCONNECT SWITCH, FUSED

DISCONNECT SWITCH, UNFUSED

STARTER, COMBINATION WITH DISCONNECT SWITCH

STARTER OR MOTOR CONTROLLER

BRANCH CIRCUIT HOMERUN. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN

FLOOR OUTLET, DATA COMMUNICATION

PANELBOARD CABINET, FLUSH MOUNTED

PANELBOARD CABINET, SURFACE MOUNTED

RECEPTACLE, DUPLEX

RECEPTACLE, DUPLEX, CEILING MOUNTED

POKETHROUGH DEVICE WITH DUPLEX RECEPTACLE

RECEPTACLE, DUPLEX ON EMERGENCY POWER

RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER

RECEPTACLE, QUADRAPLEX

RECEPTACLE, QUADRAPLEX ON EMERGENCY POWER

RECEPTACLE, SINGLE

RECEPTACLE, SINGLE WITH SWITCH

RECEPTACLE, SPECIAL PURPOSE
A = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 5-20R.
A1 = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA L5-20R.
B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R.
C = 120V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 5-30R.
D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R.
E = 208V, 60A, 1 PHASE, 3-POLE, 4W, NEMA 14-60R.
F = 208V, 30A, 3 PHASE, 3-POLE 4W, NEMA 15-30R.
G = 208V, 50A, 3 PHASE, 3 POLE, 4W, NEMA 15-50R.
H = 208V, 60A, 3 PHASE, 3 POLE, 4W, NEMA 15-60R.
J = 208V, 40A, 3 PHASE, 3 POLE, 4W, NEMA L14-40R

$2 SWITCH

F = FUSED SWITCH	K = KEY OPERATED
L = LOCK	LM= LOW VOLTAGE MASTER
M = MANUAL MOTOR STARTING	MC= MOMENTARY CONTACT
MP= MOTOR SNAP WITH PILOT LIGHT (THERMAL TYPE)	P = WITH PILOT LIGHT
PB= PUSH BUTTON STATION	RC= REMOTE CONTROL
WP= WEATHER PROOF	X = EXPLOSION PROOF

DEMOLITION WORK

"CONSTRUCTION BID DOCUMENTS"

FULLY SPRINKLERED

NO.	DESCRIPTION	DATE

CONSULTANTS:

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ARCHITECT/ENGINEERS:

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Drawing Title: ELECTRICAL SYMBOLS, ABBREVIATIONS AND LEGEND

Approved: Project Director

Project Title: REPLACE COMP/PBX UPS

Location: VAMC BATH, NEW YORK

Date: 02-03-2014 | Checked: COFONE | Drawn: RONCA

Project Number: 528A6-14-604

Building Number: 76

Drawing Number: E001

Dwg. 2 of 6

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

ELECTRICAL DEMOLITION NOTES:

1. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS ASSOCIATED WITH RELOCATION AND REMOVAL OF ELECTRICAL WORK AS DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN ISSUES WHEN CONCEALED WORK HAS BEEN EXPOSED. NO ADDITIONAL CLAIMS FOR WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, UNLESS, IN CERTAIN CASES, CONSIDERED JUSTIFIABLE BY THE ENGINEER.

2. NOTE THAT THE FACILITY WILL BE OPERATIONAL DURING THE COURSE OF THIS PROJECT.

    2.1. THE CONTRACTOR IS TO COORDINATE ALL OF THE DEMOLITION WORK WITH THE FACILITY PERSONNEL TO MINIMIZE DISTURBING THE OPERATING EQUIPMENT, WIRING AND SYSTEMS.

    2.2. THE CONTRACTOR SHALL PERFORM REMOVAL AND DEMOLITION WORK WITH MINIMAL INTERFERENCE WITH EXISTING SYSTEMS.

    2.3. IF NECESSARY THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER FOR THE FACILITY.

3. DEMOLITION AND REMOVAL OF WORK SHALL BE PERFORMED IN A NEAT AND PROFESSIONAL MANNER. THE CONTRACTOR SHALL RESTORE, PATCH, PAINT, ETC., ANY INTERIOR/EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.

4. REFER TO ELECTRICAL DEMOLITION AND RENOVATION PLANS FOR NEW EQUIPMENT LAYOUT AND EXTENT OF EQUIPMENT BEING REPLACED, RELOCATED, OR REMOVED. COORDINATE WITH ALL TRADES AS TO EXTENT OF EQUIPMENT BEING REMOVED OR RELOCATED. CLOSELY COORDINATE THE EXTENT OF DEMOLITION SCOPE OF WORK WITH ARCHITECT, ENGINEER AND/OR MECHANICAL PLANS. PATCH AND PAINT (TO MATCH SURROUNDING CONDITIONS) ALL OPENINGS CREATED BY THIS DEMOLITION.

5. EXISTING CONDITIONS, EQUIPMENT, MATERIALS & SIZES ARE SHOWN FOR REFERENCE ONLY. VERIFY EXISTING CONDITIONS AND BRING ANY DISCREPANCIES TO THE ENGINEER'S ATTENTION IN WRITING PRIOR TO BID SUBMISSION.

6. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL DEMOLITION WORK FOR THIS PROJECT WHETHER OR NOT SPECIFICALLY INDICATED ON THIS OR OTHER DEMOLITION PLANS. THIS WORK SHALL INCLUDE BUT IS NOT LIMITED TO THE DISCONNECTION, REMOVAL AND DISPOSAL OF; LIGHTING FIXTURES, PANELBOARDS, DISCONNECT SWITCHES, RECEPTACLES, JUNCTION BOXES, WIRE, CABLE, CONDUIT, MOUNTING HARDWARE STRAPS OR CABLES, ELECTRICAL SERVICES ETC. PER THE SCOPE OF WORK FOR THIS PROJECT.

7. THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL ELECTRICAL OUTLETS, SWITCHES, ETC., INCLUDING ASSOCIATED WIRING, CONDUITS, COVERS, BOXES, ETC., WHERE SHOWN ON THE DEMOLITION DRAWING. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING WIRING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL IN THE CEILING SPACE; JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS NECESSARY TO MAKE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, WIRING SHALL BE REMOVED BACK TO THE NEAREST ELECTRICAL JUNCTION BOX THAT IS TO REMAIN OR TO THE SOURCE PANELBOARD.

8. ALL WORK MUST BE SCHEDULED AND PERFORMED AS NOT TO INTERRUPT NORMAL OPERATIONS. REMOVAL OF ITEMS THAT WILL CAUSE ANY TYPE OF TEMPORARY SHUTDOWN SHALL BE PERFORMED DURING OFF-PEAK HOURS. ALL SUCH OUTAGES SHALL BE SCHEDULED AND COORDINATED WITH OWNER FIELD REPRESENTATIVE TO ENSURE ESSENTIAL SERVICES OR AREAS CAN BE MAINTAINED.

9. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS. THE CONTRACTOR SHALL CLOSELY FOLLOW THE DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE.

10. THE SHUTDOWN OF EXISTING BUILDING ELECTRICAL SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE APPROPRIATE ARRANGEMENTS AT LEAST 10 BUSINESS DAYS PRIOR TO A SHUTDOWN.

11. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK WHICH INTERFERES WITH THE NEW ELECTRICAL AND ARCHITECTURAL LAYOUTS IN FULL COORDINATION WITH THE ENGINEER'S DEMOLITION PLANS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE POWER SUPPLY SOURCE.

12. ELECTRICAL CONTRACTOR SHALL PROVIDE AND MAINTAIN ANY CONNECTIONS / DISCONNECTIONS AS NEEDED TO ENSURE ADEQUATE SAFETY AND PROTECTION OF ALL PERSONNEL AND EQUIPMENT.

13. ALL ELECTRICAL PANELS SHALL BE MAINTAINED AS WORKING PANELS THROUGHOUT CONSTRUCTION AND WILL CONTINUE TO MAINTAIN CIRCUITS FOR EXISTING LIGHTING OR EQUIPMENT TO REMAIN. PROVIDE AS NECESSARY TEMPORARY LIGHTING AND ELECTRICAL FEEDS TO ANY DEVICES THAT MAY BE REQUIRED FOR UNINTERRUPTED USE. PROVIDE TEMPORARY CONNECTIONS FOR RELOCATED EQUIPMENT DURING CONSTRUCTION.

14. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ANY DEVICES AND/OR FIXTURES LOCATED OUTSIDE OF DEMOLITION WORK AREA ARE NOT AFFECTED BY REMOVAL OF WIRING AND/OR CIRCUITING. WIRING/CONDUIT SHALL BE LEFT IN A SAFE CONDITION, LABELED FOR ITS USE, AND EXTENDED AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY, INCLUDING ALL APPLICABLE CONTROLS.

15. PORTIONS OF FEEDER RUNS THAT SHALL BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ENERGIZED, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED. NEW FEEDER EXTENSIONS SHALL MATCH EXISTING FEEDER EXTENSIONS IN ALL ASPECTS INCLUDING BUT NOT LIMITED TO CABLE TYPE, CONDUIT SIZES, CONDUCTOR AMPACITY, ETC..

16. ALL EXISTING LOW VOLTAGE WIRING FOR FIRE ALARM/SECURITY, SOUND, AND/OR TELECOMMUNICATIONS THAT IS NOT REUSED SHALL BE REMOVED IN ITS ENTIRETY BY THE RESPONSIBLE CONTRACTOR. ALL EXISTING LOW VOLTAGE WIRING FOR MECHANICAL SYSTEMS THAT ARE NOT USED SHALL BE REMOVED IN ITS ENTIRETY BY THE CONTRACTOR.

17. CONTRACTOR IS TO EXERCISE EXTREME CAUTION WHEN CUTTING SLAB TO AVOID DAMAGE TO ANY EXISTING CONDUITS, PIPING, ETC. THAT MAY BE CONCEALED IN OR BENEATH THE SLAB. ANY FLOOR SLAB AFFECTED BY THE REMOVAL OF DEVICES FED VIA UNDERGROUND CONDUIT OR WIRING, SHALL BE FIRESTOPPED AND PATCHED BY THE GENERAL CONTRACTOR AND TO MATCH SURROUNDING FLOOR.

18. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DISCONNECTING, RELOCATING, AND/OR RECONNECTING ALL EXISTING EQUIPMENT THAT IS TO REMAIN, EVEN IF THIS EQUIPMENT IS NOT SHOWN ON PLANS OR PANEL SCHEDULES. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR EXTENDING EXISTING CIRCUITS FROM EXISTING EQUIPMENT THAT IS REMAINING TO NEW LOCATION. CONTRACTOR SHALL MATCH EXISTING GAUGE WIRE FROM EXISTING BREAKER TO RELOCATED EQUIPMENT.

19. IN THE EVENT THAT ELECTRICAL PLANS CALL FOR EXISTING WIRING TO BE REUSED, THE ELECTRICAL CONTRACTOR SHALL SURVEY EXISTING WIRING, BOXES, ETC. TO DETERMINE IF THE EXISTING BRANCH CIRCUIT MAY BE REUSED FOR NEW EQUIPMENT (IF WIRING REMAINS IN IT'S ORIGINAL CONDUIT). ELECTRICAL CONTRACTOR SHALL DETERMINE THAT THE ENTIRE RUN OF EXISTING POWER CONDUIT AND WIRING, FROM SOURCE PANEL TO LOAD FOR WIRING TO BE REUSED, IS FEASIBLE FOR REUSE AND MEETS THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES HAVING JURISDICTION.

    IN INSTANCES WHERE EXISTING CIRCUITS ARE TO BE EXTENDED OR REUSED, ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING BRANCH CIRCUIT AND LEAVE IN A SAFE CONDITION (TAG AND LABEL ITS USE) FOR FUTURE RECONNECTION DURING RENOVATION PHASE.

20. IF SURVEY BY ELECTRICAL CONTRACTOR DEEMS THAT WIRING IS NOT FEASIBLE FOR REUSE, THEN THE ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ANY AND ALL WIRING DEEMED UNUSABLE, FROM LOAD TO SOURCE (INCLUDING DATA, COMMUNICATION, OR TELEPHONE WIRING). ANY CONDUITS STUBBED OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED TO MATCH SURROUNDING CONDITIONS.

21. PANELBOARD CABINETS SHALL NOT BE USED FOR OTHER PURPOSES THAN CIRCUIT BREAKER INSTALLATIONS AND DISTRIBUTION POINTS, AND SHALL NOT BE USED AS A JUNCTION OR PULLBOX.

22. ALL UNUSED OUTLET BOXES THAT ARE TO REMAIN SHALL BE PROVIDED WITH MATCHING BLANK COVERS.

23. ALL RACEWAYS WHICH ARE EXPOSED AS A RESULT OF NEW WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.

24. EXISTING RACEWAYS THAT ARE NOT BEING REUSED SHALL BE REMOVED BACK TO THE NEAREST JUNCTION OR PULLBOX, AND THE OPENINGS BLANKED. ANY CONDUITS PENETRATING MASONRY SURFACES SHALL BE CUT INTO SURFACE, PATCHED, AND PAINTED TO MATCH SURROUNDINGS.

25. DISCONNECT, RELOCATE OR REMOVE ELECTRICAL INSTALLATIONS AND EQUIPMENT AS INDICATED BY PLANS AND AS REQUIRED BY CHANGES IN CONSTRUCTION. WHERE EXISTING ELECTRICAL INSTALLATIONS INTERFERE WITH NEW WORK AND WHERE SUCH INSTALLATIONS ARE TO REMAIN IN USE, THE NEW INSTALLATIONS SHALL BE RELOCATED AND/OR RECONNECTED TO COORDINATE WITH THE WORK INDICATED ON THE CONTRACT DRAWINGS. DETERMINE AND COORDINATE ALL EQUIPMENT LOCATIONS PRIOR TO INITIAL ROUGH-IN.

26. DISCONNECT AND RELOCATE/RECONNECT ANY ELECTRICAL LINES, BRANCH CIRCUITS, DEVICES (INCLUDING FIRE ALARM DEVICES), ETC. AND REPAIR PULL BOXES THAT MAY BE DISTURBED DURING THIS RENOVATION. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED OBSOLETE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THE CONTRACT, SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION AT NO COST TO OWNER. IF ANY EQUIPMENT TO REMAIN IS DAMAGED DURING CONSTRUCTION, IT SHALL BE REPLACED WITH NEW (WITH NO COST APPLIED TO OWNER).

27. FOR EXISTING PANELS MODIFIED AS PART OF THIS PROJECT, E.C. SHALL TEST AND KEEP ALL EXISTING WORKING CIRCUIT BREAKERS AND SHALL USE THEM FOR NEW EQUIPMENT, DEVICES, LIGHTING, AND/OR SPARES. E.C. SHALL REPLACE NON-WORKING BREAKERS WITH NEW "IN KIND" BREAKERS. PROVIDE BLANK COVERS/COVERPLATES FOR ALL EXPOSED CIRCUIT BREAKER SPACES (THOSE WITHOUT INSTALLED CIRCUIT BREAKERS; EXPOSED BUS BARS) FOR PERSONNEL PROTECTION.

28. AS DIRECTED BY THE OWNER, ALL EXISTING EQUIPMENT AND MATERIAL IN USABLE CONDITION THAT IS REMOVED SHALL REMAIN THE PROPERTY OF THE OWNER, OR HANDLED AS INSTRUCTED BY THE OWNER, BE DISPOSED OF BY THE ELECTRICAL CONTRACTOR. ALL MATERIALS DEEMED FOR REMOVAL SHALL BE RECYCLED WHENEVER POSSIBLE.

29. REMOVAL OF BRANCH CIRCUITS IN ASSOCIATED PANELS SHALL BE COORDINATED WITH THE REMOVAL OF EQUIPMENT IN SPECIFIED AREA. REFER TO RENOVATION PLANS AND ELECTRICAL PANEL SCHEDULES FOR NEW CIRCUITING ARRANGEMENT. ANY WIRING OR CIRCUITS BEING REVISED SHALL MEET MINIMUM WIRE SIZES AS INDICATED IN PANEL SCHEDULES. ELECTRICAL CONTRACTOR SHALL REMOVE WIRING/CONDUIT BACK TO SOURCE FROM UNUSED OR ABANDONED CIRCUITS, LABEL CIRCUIT BREAKER AS "SPARE", AND LEAVE IN THE "OFF" POSITION.

30. EXISTING PANELBOARD DIRECTORIES AFFECTED BY THE ALTERATION WORK SHALL BE REPLACED WITH NEW "TYPED" DIRECTORIES, TO ACCURATELY REFLECT THE BRANCH CIRCUIT WIRING MODIFICATIONS AND EXISTING CONDITIONS. OWNER WILL PROVIDE AN ELECTRONIC TEMPLATE FOR PANELBOARD DIRECTORIES.

31. THE CONTRACTOR SHALL ENSURE THAT ALL FLUORESCENT LAMPS REMOVED AS PART OF THE PROJECT ARE SECURED AND PROVIDED TO THE VA FOR PROPER DISPOSAL. NO FLUORESCENT LAMPS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

32. ALL EXISTING DATA CABLES NOT SPECIFICALLY CALLED OUT FOR REMOVAL SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION AND SHALL BE COILED ABOVE THE CEILING FOR REUSE.

GENERAL NOTES AND CONDITIONS:

1. THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT ALL RULES AND REGULATIONS, INCLUDING THOSE WHICH MAY BE ISSUED BY THE OWNER, ARE BEING OBSERVED, PARTICULARLY WORKPLACE SAFETY AND THE CONDUCT OF ALL THOSE EMPLOYED DIRECTLY AND INDIRECTLY BY HIM ON THE PREMISES, AND THE OWNER'S EMPLOYEES WHO MAY BE IMPACTED OR AFFECTED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL INSTALL SIGNAGE, BARRIERS, AND OTHER MEANS TO PROVIDE WARNING AND PERSONNEL SAFETY. PLACEMENT OF THESE ITEMS WILL BE COORDINATED WITH THE OWNER AND HIS ONGOING OPERATIONS AND WILL PROMPTLY BE REVISED WHEN WORK IN A PARTICULAR AREA HAS BEEN COMPLETED.

    1.1. DURING PERFORMANCE OF WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVISION AND MAINTENANCE OF WARNING SIGNS, LIGHT SIGNAL DEVICES, GUARD LIGHTS, BARRICADES, GUARD RAILS, FENCES AND OTHER DEVICES, APPROPRIATELY LOCATED ON AND AROUND THE JOB SITE WHICH GIVE PROPER AND UNDERSTANDABLE WARNING TO PERSONS WITH REGARD TO HAZARDOUS CONDITIONS, EQUIPMENT AND OPERATIONS BEING PERFORMED IN CONJUNCTION WITH THE WORK.

2. THIS INSTALLATION WILL CONFORM TO ALL CODES AND THE REQUIREMENTS OF FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES HAVING JURISDICTION INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

    BUILDING: NFPA: CURRENT EDITION

    ELECTRICAL: NATIONAL ELECTRIC CODE: NFPA 70 – CURRENT EDITION

    VA DESIGN GUIDES: CURRENT EDITION

3. ALL WORK WILL BE LAWFULLY EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND WILL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING CODES (ABOVE), INDUSTRY STANDARDS, AND IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS.

4. WORK UNDER THIS CONTRACT SHALL CONSIST OF THE CONTRACTOR PROVIDING ALL LABOR, MATERIALS, AND SERVICES, INCLUDING WORK NOT SPECIFICALLY SHOWN BUT REASONABLY IMPLIED. THIS SHALL INCLUDE CUTTING, PATCHING AND RESTORATION OF EXISTING SURFACES DAMAGED DURING THE CONSTRUCTION. CONTRACTOR SHALL ALSO PROVIDE ALL EQUIPMENT SHOWN OR SPECIFIED OR AN APPROVED EQUIVALENT. SUBSTITUTED EQUIPMENT OR MATERIALS SHALL NOT BE INSTALLED UNTIL GIVEN WRITTEN APPROVAL BY THE OWNER.

5. EACH TRADE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING ALL TEMPORARY POWER SOURCES AND ANY REQUIRED UTILITIES FOR ANY TEMPORARY MECHANICAL, PLUMBING, AND/OR ELECTRICAL EQUIPMENT OR SYSTEMS (REQUIRED BY THEIR INDIVIDUAL TRADES SCOPE OF WORK) DURING THE COURSE OF CONSTRUCTION AND PHASING/SEQUENCING OF WORK. THIS SHALL INCLUDE BUT NOT BE LIMITED TO THE INSTALLATION AND ROUTING OF: TEMPORARY FEEDERS, CONDUIT, TRANSFORMERS, ON-SITE GENERATOR PACKAGES, OVERCURRENT PROTECTION DEVICES, DISCONNECTS, CONNECTIONS AND DISCONNECTION OF EQUIPMENT, ETC. ALL ELECTRICAL WORK MUST BE PERFORMED BY A LICENSED ELECTRICIAN. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS INCURRED FOR NONCOMPLIANCE WITH THESE CONTRACT DOCUMENTS. CONTRACTOR WILL NOT BE ALLOWED CHANGE ORDERS FOR PROBLEMS ARISING FROM NEGLECT OF PROVISIONS INCLUDED IN THESE CONDITIONS.

7. MAINTAIN ORDERLY HOUSEKEEPING DURING CONSTRUCTION, AND UPON SUBSTANTIAL COMPLETION PERFORM FINAL CLEANUP. REMOVE CONSTRUCTION RUBBISH, SCAFFOLDING, EQUIPMENT, TEMPORARY PROTECTION, TEMPORARY FIELD STRUCTURES, AND OTHER MATERIALS OR EQUIPMENT THAT WAS REQUIRED IN CONNECTION WITH THE CONSTRUCTION, BUT NOT A PERMANENT PART THEREOF.

8. THOSE PERFORMING WORK AS A CONTRACTOR MUST EXAMINE SUBSTRATES AND CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND NOTIFY THE CONTRACTOR IN WRITING, OF CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK. COMMENCEMENT OF WORK BY A TRADE ON A SURFACE OR CONSTRUCTION SHALL IMPLY ACCEPTANCE OF SUCH SURFACE OR CONSTRUCTION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

9. THE CONTRACTOR SHALL REVIEW CONTRACT DOCUMENTS FOR CONFLICTS. WHERE CONFLICTS EXIST WITHIN THE DRAWINGS, WORK SHALL NOT PROCEED UNTIL THE ENGINEER HAS BEEN NOTIFIED AND GIVEN DIRECTION.

10. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND MANUFACTURERS DATA SHEETS ON ALL EQUIPMENT AND MATERIALS SPECIFIED ON DRAWINGS FOR APPROVAL BY OWNER OR AGENT FOR THE OWNER. THESE DRAWINGS OR SHEETS SHALL CONTAIN ALL NECESSARY DATA, I.E., MANUFACTURER, CATALOG NUMBER, SIZE, DIMENSIONS, CAPACITY, WIRING DETAILS AND ALL OTHER ENGINEERING DATA AND DETAILS NECESSARY FOR COMPLETE CLARITY AND INSTALLATION.

11. THE CONTRACTOR SHALL KEEP ONE SET OF THE LATEST ISSUE OF DRAWINGS WHICH SHALL REFLECT THE ACTUAL INSTALLED CONDITIONS AND CONNECTIONS OF ALL EQUIPMENT AND DEVICES. THE CONTRACTOR SHALL PROVIDE COPIES OF ALL MAINTENANCE INFORMATION AND INSTRUCTIONS RECEIVED WITH EQUIPMENT AND SYSTEMS. ALL "AS-BUILT" DRAWINGS AND MISCELLANEOUS INFORMATION SHALL BE GIVEN TO THE OWNER AND ENGINEER AT COMPLETION OF WORK. THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND LABOR TO BE FREE FROM DEFECTS FOR A ONE YEAR PERIOD FROM THE TIME OF OWNER ACCEPTANCE. ANY DEFECTS OCCURRING DURING THIS PERIOD SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

12. CONTRACTOR IS TO PROVIDE ALL REQUIRED SCAFFOLDING, LADDERS, RIGGING, HOISTING AND ALL OTHER EQUIPMENT REQUIRED FOR THE INSTALLATION OF THEIR WORK.

13. ESTABLISH PASSAGE CLEARANCES REQUIRED TO DELIVER, INSTALL AND ERECT ALL REQUIRE EQUIPMENT. IF STRUCTURES, EQUIPMENT AND SYSTEMS MUST BE ALTERED TO PROVIDE PASSAGE OF EQUIPMENT, THE CONTRACTOR SHALL RESTORE STRUCTURES, EQUIPMENT AND SYSTEMS TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE; INCLUDING REMOVING AND REPLACEMENT OF ALL CEILING AS REQUIRED TO COMPLETE THE WORK.

14. PRIOR TO ANY WORK COMMENCING AN AN AREA, THE CONTRACTOR SHALL NOTIFY THE COR OF HIS INTENTION TO WORK IN THE AREA AND SHALL SCHEDULE A WALKTHROUGH WITH THE COR TO DETERMINE EXISTING CONDITIONS. AFTER THE WORK, THE EXISTING WORK AREAS SHALL BE RETURNED TO THEIR ORIGINAL STATE BEFORE FINAL APPROVAL SHALL BE GIVEN.

15. WHERE INCIDENTAL WORK IS REQUIRED TO ACCOMPLISH WORK SHOWN ON THE DRAWINGS, THIS WORK IS IMPLIED AND SHALL BE INCLUDED IN THE BID.

16. THE CONTRACTOR SHALL RECEIVE ALL DELIVERIES OF MATERIALS, TOOLS, EQUIPMENT AND OTHER GOODS OFF STATION AND BRING TO THE PROJECT SITE. THE VA WILL NOT ACCEPT PROJECT DELIVERIES.

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER AND ALL OTHER DISCIPLINES INVOLVED IN THIS PROJECT.

    1.1. CONTRACTOR SHALL REVIEW ALL TRADES' CONTRACT DOCUMENTS AND APPLICABLE SHOP DRAWINGS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR ELECTRICAL EQUIPMENT.

    1.2. VERIFY EXACT LOCATIONS AND MOUNTING OF ALL LIGHT FIXTURES, SWITCHES, RECEPTACLES, OUTLETS, FIRE ALARM DEVICES, VOICE/DATA DEVICES AND OTHER EQUIPMENT WITH ARCHITECTURAL DRAWINGS AND IN THE FIELD PRIOR TO ROUGH-IN. IN CENTERING OUTLETS AND LOCATION BOXES, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE, AND CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.

    1.3. LOCATIONS INDICATED FOR LOCAL WALL SWITCHES ARE SUBJECT TO MODIFICATIONS AT OR NEAR DOORS. COORDINATE WITH ARCHITECTURAL AND/OR ENGINEERING PLANS AND INSTALL SWITCH ON SIDE OPPOSITE HINGE. VERIFY FINAL HINGE LOCATIONS IN FIELD PRIOR TO SWITCH OUTLET INSTALLATION.

2. THE CONDUITS SHOWN ON THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE, THEY SHOW THE GENERAL ARRANGEMENT AND SIZE OF THE CONDUITS. THEY ARE NOT INTENDED TO SHOW EVERY OFFSET OR INTERFERENCE THAT MAY BE ENCOUNTERED. CONTRACTOR IS RESPONSIBLE FOR ROUTING ALL CONDUIT IN THE MOST EFFICIENT MANNER IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

3. ALL CONTRACTOR SUPPLIED MATERIALS SHALL BE NEW AND UL APPROVED (OR APPROVED BY ANOTHER NATIONALLY RECOGNIZED ORGANIZATION).

4. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE. HORIZONTAL OR CROSS RUNS IN PARTITIONS AND WALLS NOT PERMITTED.

5. UNLESS OTHERWISE STATED, ALL ABOVE GROUND WIRING SHALL BE IN CONDUIT, 3/4 INCH MINIMUM SIZE FOR ELECTRIC SERVICES. ALL CONDUIT BENDS SHALL BE OF THE LONG RADIUS TYPE. ALL OUTDOOR WIRING SHALL BE IN CONDUIT, 3/4 INCH MINIMUM SIZE. ALL MOTORS AND TRANSFORMERS SHALL HAVE FLEXIBLE CONNECTIONS TO MINIMIZE VIBRATION. 1/2 INCH CONDUIT IS ACCEPTABLE FOR SWITCH LEGS AND TIGHT WALL SITUATIONS. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

6. ALL WIRING SHALL BE RUN CONCEALED IN CONDUIT UNLESS SPECIFIED OTHERWISE.

7. CONTRACTOR SHALL USE TRAPEZE TO SUPPORT MULTIPLE CONDUITS FROM BUILDING STEEL

8. SECURE ALL SUPPORTS TO BUILDING STRUCTURE BY STEEL FOR VERTICAL SUPPORT AND BY MEANS OF TOGGLE BOLTS ON HOLLOW MASONRY UNITS, EXPANSION SHIELDS IN CONCRETE OR BRICK. MACHINE SCREWS ON METAL SURFACE, AND WOOD SCREWS ON WOOD CONSTRUCTION. NAILS, RAWL OR WOOD PLUGS NOT PERMITTED. SUPPORT HORIZONTAL RUNS OF METALLIC CONDUITS NOT MORE THAN 10 FT. APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.

9. ALL CONDUIT INSTALLATIONS CROSSING EXPANSION JOINTS SHALL HAVE EXPANSION OR EXPANSION/DEFLECTION TYPE FITTINGS AS REQUIRED. NOTE: FOR THE EXACT LOCATIONS OF EXPANSION JOINTS, SEE OWNER FOR EXISTING STRUCTURAL DRAWINGS.

10. ALL UNDERGROUND CONDUITS SHALL BE SEALED TO PREVENT THE ENTRY OF WATER OR GASES.

11. PASS RACEWAYS OVER WATER, STEAM, OR OTHER PIPING WHEN PULL BOXES ARE NOT REQUIRED. NO RACEWAY WITHIN 3 IN. OF STEAM OR HOT WATER PIPES, OR APPLIANCES, EXCEPT CROSSINGS WHERE RACEWAY SHALL BE AT LEAST 1 IN. FROM PIPE COVER.

12. FURNISH PULL STRING IN EACH RACEWAY RUN OVER 10 FT IN WHICH WIRING IS NOT INSTALLED.

13. CUT STEEL CONDUIT ENDS SQUARE, REAM SMOOTH, PAINT MALE THREADS OF FIELD THREADED CONDUIT WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH CONDUIT COUPLINGS.

14. NOT USED.

15. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE REGARDING ELECTRODE, GROUNDING AND BONDING REQUIREMENTS FOR SERVICE, EQUIPMENT AND ENCLOSURES. ALL EQUIPMENT SHALL BE PROVIDED WITH A SEPARATE GROUNDING CONDUCTOR.

16. CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.

17. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF NORMAL AND EMERGENCY CIRCUITS. IN COMMON BOXES, PROVIDE BARRIERS BETWEEN EMERGENCY AND NORMAL WIRING.

18. LEAVE WIRE SUFFICIENTLY LONG TO PERMIT MAKING FINAL CONNECTIONS.

19. WIRE COLOR CODING: PER CODE. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION FOR OVERLAP COLOR TAPING OF CONDUCTORS (MINIMUM LENGTH 6") IN ACCESSIBLE LOCATIONS. COLOR CODING, ONCE SELECTED, MUST BE USED CONSISTENTLY FOR THE ENTIRE PROJECT.

20. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32°F.

21. PROVIDE CABLE SUPPORTS FOR WIRE IN RISER CONDUITS AS REQUIRED BY CODE.

22. ALL SWITCHES SHALL BE MOUNTED AT 4'-0" ABOVE THE TOP OF FINISHED FLOOR, UNLESS OTHERWISE NOTED. ALL RECEPTACLES SHALL BE MOUNTED AT 18" ABOVE THE TOP OF FINISHED FLOOR, UNLESS OTHERWISE NOTED.

23. PROVIDE PULL BOXES AS INDICATED AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE AND COORDINATE LOCATIONS WITH OTHER TRADES.

24. FOR EMPTY RACEWAY RUNS, PROVIDE PULL BOXES EVERY 100FT AND AS INDICATED. COORDINATE LOCATIONS WITH OTHER TRADES.

25. JUNCTION AND PULL BOXES: LOCATE GENERALLY NOT EXPOSED IN FINISHED SPACES. WHERE NECESSARY, REROUTE CONDUITS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. COVERS OF JUNCTION AND PULL BOXES SHALL BE ACCESSIBLE.

26. SUPPORT JUNCTION AND PULL BOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON CONDUITS.

27. ELECTRICAL CONTRACTOR SHALL COORDINATE ADDITIONAL CONTROL CIRCUITING REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE ADDITIONAL 120V/1ø CONTROL CIRCUITS (VIA 2#12+1#12G. IN 3/4"C.) FROM NEAREST, SPARE 20A/1P CIRCUIT BREAKER(S) IN 208V ELECTRICAL PANEL HAVING SUFFICIENT SPARE AMPERAGE CAPACITY. PROVIDE NEW CIRCUIT BREAKER(S) AS REQUIRED. PROVIDE ADDITIONAL CONNECTIONS TO LOW VOLTAGE TRANSFORMERS (PROVIDED BY CONTROLS CONTRACTOR).

28. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT AND/OR ENGINEER PRIOR TO INSTALLATION.

29. FIRESTOP SHALL BE INSTALLED WHENEVER WIRING OR RACEWAYS CROSS FIRE RATED WALL. PANELBOARDS, DISCONNECTS, AUTOMATIC TRANSFER SWITCHES, ETC., SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE, TO THE TOP OF THE FINISHED FLOOR SHALL NOT EXCEED 6'-6" (MAX.).

30. ALL PANELS SHALL BE BALANCED AS EVENLY AS POSSIBLE ACROSS PHASES. REARRANGE CIRCUITS AS REQUIRED. ALL PANELS SHALL HAVE PERMANENT DIRECTORIES. CIRCUIT CHANGES SHALL BE REFLECTED ON "AS BUILT" DRAWINGS.

31. ALL SURFACE MOUNTED PANELS AND PANELBOARDS INSTALLED ON THE INSIDE FACE OF EXTERIOR WALLS, ABOVE GRADE OR IN OTHER LOCATIONS CONSIDERED AS DAMP, SHALL BE MOUNTED SO AS TO MAINTAIN A 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE FACE OF THE WALL.

GENERAL ELECTRICAL NOTES (CONT.):

32. ALL NEW ELECTRICAL PANELS SHALL BE LOCKABLE. PROVIDE OWNER WITH TWO (2) KEYS PER PANEL.

33. EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS.

34. ALL DEVICES SHALL BE ADEQUATELY IDENTIFIED WITH PERMANENT LABELS OR TAGS. WIRING SHALL BE IDENTIFIED AS TO PHASING AND CONDUCTOR IDENTIFICATION.

35. CONDUIT HOMERUNS SHOWN ON THE DRAWING WITH MORE THAN 3 CURRENT CARRYING CONDUCTORS ARE SHOWN DIAGRAMMATICALLY. CONTRACTOR SHALL NOT INSTALL MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS DONE SO STRICTLY BY THE NATIONAL ELECTRIC CODE.

36. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

37. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

38. ALL TEMPORARY WIRING, LIGHTING AND POWER CIRCUITS AND DEVICES SHALL BE INSTALLED TO MEET THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, LOCAL, STATE AND FEDERAL REQUIREMENTS FOR SUCH TEMPORARY INSTALLATION.

39. THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT RECEPTACLES USED FOR HAND TOOLS AND OTHER MISCELLANEOUS EQUIPMENT SHALL BE INSTALLED WITH GROUND FAULT INTERRUPTER OR OTHER APPROVED AND RECOGNIZED INTERRUPTING SENSORS.

40. ALL OPENINGS SHALL BE SEALED UPON COMPLETION OF INSTALLATION TO PREVENT THE SPREAD OF SMOKE AND FIRE THROUGH OPENINGS. OPENINGS SHALL ALSO BE SEALED TO PREVENT WATER SEEPAGE WHERE APPLICABLE. ALL OPENINGS SHALL BE COORDINATED WITH OTHER CRAFTS TO PREVENT INTERFERENCE AND OBSTRUCTION. PENETRATIONS THROUGH FIRE WALLS MUST BE MADE BY AN APPROVED THROUGH PENETRATION FIRESTOP SYSTEM.

41. THE COMPLETE INSTALLATION SHALL BE TESTED AT COMPLETION OF WORK, TO BE FREE OF GROUNDS AND SHORT CIRCUITS CONDITIONS. ALL INTERLOCK CIRCUITS SHALL BE TESTED TO VERIFY CORRECT OPERATION OF EACH DEVICE. ALL ROTATING EQUIPMENT SHALL BE JOGGED TO VERIFY CORRECT ROTATION BEFORE PERMANENTLY ENERGIZING.

42. CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL WORK AND SHUTDOWNS OF EQUIPMENT WITH FACILITY.

43. EXCAVATION FOR UNDERSLAB OR UNDERGROUND INSTALLATION OF CONDUITS SHALL BE APPROACHED WITH EXTREME CAUTION SO AS NOT TO DAMAGE EXISTING UNDERGROUND PIPING, WIRING AND CONDUITS.

44. ELECTRICAL CONTRACTOR SHALL PROVIDE CONSTRUCTION MANAGER/GENERAL CONTRACTOR A SURFACE PENETRATING RADAR SURVEY FOR THE PURPOSE OF LOCATING ALL UNDERGROUND (OR IN-SLAB) CONDUITS, PIPING, UTILITIES, STRUCTURAL MEMBERS, ETC. IN ALL AREAS WHERE SLAB CUTTING MAY OCCUR (FOR THE PURPOSES OF ELECTRICAL WORK REQUIRED). SURVEY MUST BE COMPLETED TWO WEEKS PRIOR TO CUTTING OF ANY SLAB. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY (AND ALL ASSOCIATED COSTS) OF REPAIRING AND/OR REPLACING ANY SYSTEMS DAMAGED BY THE SLAB CUTTING PROCEDURES, WHEN PREVENTATIVE MEASURES WERE NOT CONSIDERED OR UTILIZED. COST FOR SURVEY(S) SHALL BE SUBMITTED AS A SEPARATE LINE ITEM PRICE (WHEN APPLICABLE).

45. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING VOLTAGE, PHASE, MCA, MOCP, REQUIRED FOR ALL EQUIPMENT PROVIDED BY OTHER CONTRACTORS PRIOR TO PURCHASING AND INSTALLING CONDUCTORS, BREAKERS, DISCONNECTS, CONDUIT, ETC. VERIFY RATINGS WITH FINAL, APPROVED CONTRACTOR EQUIPMENT SUBMITTALS AND EQUIPMENT NAMEPLATES DIRECTLY WITH THE PROVIDING CONTRACTOR.

46. UNLESS NOTED OTHERWISE WITHIN THE PROJECT CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, ALL NEW ELECTRICAL DEVICES INDICATED ON THE ELECTRICAL PLANS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR (EXAMPLE: DISCONNECT SWITCHES, CIRCUIT BREAKERS, WIRING, CONDUIT, ETC.). VARIABLE FREQUENCY DRIVES, VFD CONTROL PANELS, DISCONNECT SWITCHES, COMBINATION MOTOR STARTER/DISCONNECTS AND ASSOCIATED COMPONENTS FOR NEW EQUIPMENT PROVIDED BY OTHERS SHALL BE PROVIDED BY THE CORRESPONDING CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR (WHEN NOT FACTORY INSTALLED).

47. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REVIEW THE ELECTRICAL PLANS AND SPECIFICATIONS, AS WELL AS ALL RELATED PROJECT PLANS AND SPECIFICATIONS FROM OTHER DISCIPLINES, TO BECOME FAMILIAR WITH THE FULL PROJECT SCOPE AND COORDINATED RESPONSIBILITIES. CONFLICT OF INTENDED RESPONSIBILITIES SHALL BE BROUGHT TO ENGINEERS ATTENTION, PRIOR TO SUBMISSION OF BID.

48. DURING THE COURSE OF CONSTRUCTION, COORDINATION AND FINAL TURNOVER, IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO WORK CLOSELY WITH ALL CONTRACTORS AND TRADESMEN IN ORDER TO ENSURE A SMOOTH RUNNING AND CAREFULLY COORDINATED INSTALLATION.

49. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH COULD REQUIRE ADDITIONAL ELECTRICAL WORK, (DISCONNECTION, RECONNECTION, ETC.) AND ARE NOT INDICATED ON THE ELECTRICAL DRAWINGS.

50. CONTRACTOR SHALL COORDINATE ALL TEMPORARY ELECTRICAL POWER WITH UTILITY, AS REQUIRED, DURING DEMOLITION AND CONSTRUCTION ACTIVITIES AND SHALL BE RESPONSIBLE FOR THE USAGE AND PAYMENT THEREOF. CONTRACTOR SHALL COORDINATE ACTIVATION OF NEW PERMANENT POWER FOR VA.

"CONSTRUCTION BID DOCUMENTS"

FULLY SPRINKLERED

NO.	DESCRIPTION	DATE

CONSULTANTS:

MILLER-REMICK LLC PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business
1010 KINGS HIGHWAY SOUTH
CHERRY HILL, NEW JERSEY 08034
PHONE: (856)429-4000
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SDVOSB – Service Disabled Veteran Owned Small Business – CVE

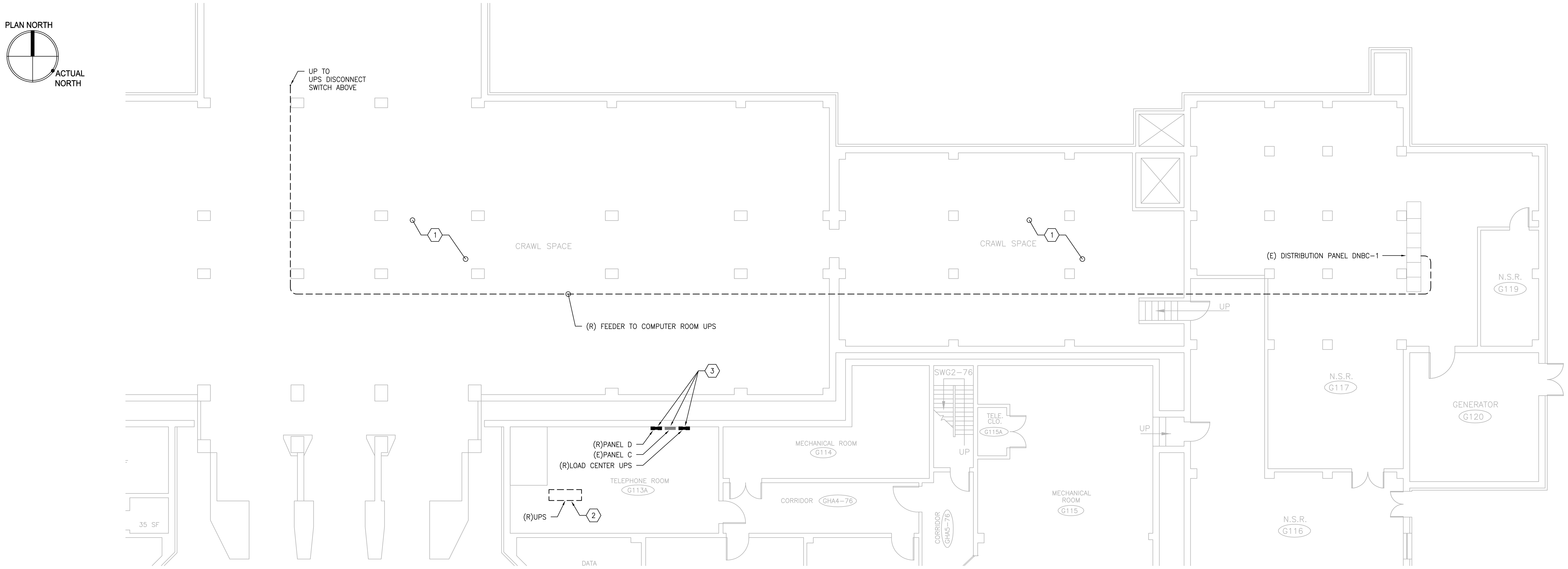
Drawing Title	Project Title	Project Number
ELECTRICAL DEMOLITION, GENERAL NOTES AND CONDITIONS	REPLACE COMP/PBX UPS	528A6-14-604
Approved: Project Director	Location: VAMC BATH, NEW YORK	Building Number: 76
	Date: 02-03-2014; Checked: COFONE; Drawn: RONCA	Drawing Number: E002, Dwg. 3 of 6

Office of Construction and Facilities Management

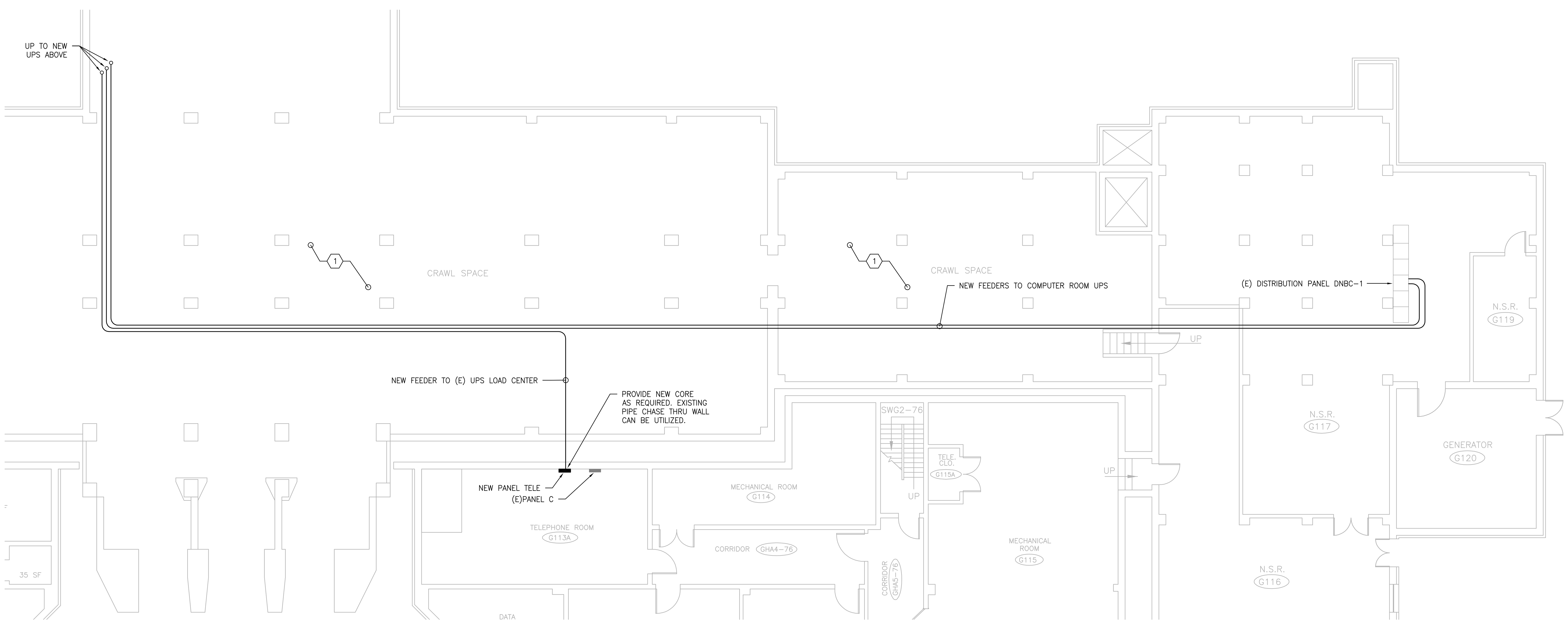
Department of Veterans Affairs

VA FORM 08-6231

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



1 GROUND FLOOR DEMOLITION POWER PLAN
SCALE: 1/8" = 1'-0"



2 GROUND FLOOR NEW WORK POWER PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES:

1. SEE DWGS. E001 AND E002 FOR SYMBOLS, GENERAL NOTES, AND ABBREVIATIONS.
2. ALL DEVICES SHOWN ON THE DRAWINGS SHALL BE NEW, UNLESS OTHERWISE NOTED.
3. SEE DRAWING E601 FOR PHASING INTENT OF PROJECT.
4. REFER TO PANEL SCHEDULES ON DRAWING EP101 FOR FURTHER INFORMATION ON BRANCH CIRCUITS TO BE SPLICED AND EXTENDED TO NEW PANEL TELE.

SHEET KEYNOTES:

1. THERE IS NO INTENT TO DISTURB ACM MATERIALS IN THE CRAWL SPACE, HOWEVER DURING THE COURSE OF CONSTRUCTION ACTIVITIES, SOIL MAY BE DISTURBED. THEREFORE, ALL WORKERS WITHIN CRAWLSPACE SHALL BE OUTFITTED WITH PROPER PPE TO GUARD AGAINST AIRBORNE ACM CONTAMINANTS. A DECONTAMINATION UNIT SHALL BE REQUIRED OUTSIDE OF THIS WORK SPACE.
2. DEMOLISH ENTIRE UPS SYSTEM, INCLUDING BUT NOT LIMITED TO POWER FEEDS, BATTERIES, MOUNTS, ETC. REFER TO DRAWING E601 FOR FEEDER DEMOLITION SCOPE.
3. EXISTING CIRCUITS FROM THIS PANEL, INDICATED ON PANEL SCHEDULES ON DRAWING EP101, SHALL BE SPLICED AND EXTENDED TO NEW PANEL TELE. PROVIDE JUNCTION BOXES AS REQUIRED. MATCH BRANCH CIRCUIT WIRE SIZE.

"CONSTRUCTION BID DOCUMENTS"

FULLY SPRINKLERED

NO.	DESCRIPTION	DATE

CONSULTANTS:

MILLER-REMICK LLC PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

Miller-Remick LLC
M.E.P. & Structural Engineering
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SDVOSB

Drawing Title: ELECTRICAL GROUND FLOOR DEMOLITION AND NEW WORK PLANS

Approved: Project Director

Project Title: REPLACE COMP/PBX UPS

Location: VAMC BATH, NEW YORK

Date: 02-03-2014 | Checked: COFONE | Drawn: RONCA

Project Number: 528A6-14-604

Building Number: 76

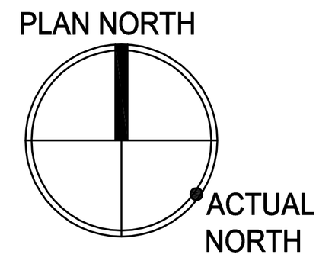
Drawing Number: EP101

Dwg. 4 of 6

Office of Construction and Facilities Management

Department of Veterans Affairs

PLAN NORTH



Panel Name: D	Panel Voltage: 208Y/120V, 3 Phase, 4 Wire	Existing Panel	Main Lugs Only:	Main Breaker: 100	Panel A.I.C. Rating:

ID	Ckt #	Description	Breaker P	Breaker Trip	Load Code	Load VA	Phase A	Phase B	Phase C	Load VA	Load Code	Breaker Trip	Breaker P	Description	Ckt #	ID
	1	MAIN CIRCUIT BREAKER										30	2	SECURITY SYSTEM - SEE NOTE 2.	2	EX
	3	MAIN CIRCUIT BREAKER													4	
	5	MAIN CIRCUIT BREAKER												SECURITY SYSTEM - SEE NOTE 2.	6	EX
EX	7	IT RECEPTACLES - SEE NOTE 2	1	15										SECURITY SYSTEM - SEE NOTE 2.	8	EX
EX	9	VERIZON EQUIPMENT - SEE NOTE 2.	1	15										VERIZON EQUIPMENT - SEE NOTE 2.	10	EX
EX	11	UPS FEED	2	60										SECURITY SYSTEM - SEE NOTE 2.	12	EX
	13													SECURITY SYSTEM - SEE NOTE 2.	14	EX
EX	15	PANEL RECPT	1	15										SECURITY SYSTEM - SEE NOTE 2.	16	EX
EX	17	IT RECEPTACLES - SEE NOTE 2	1	15										SECURITY SYSTEM - SEE NOTE 2.	18	EX

Total Connected Load (VA/PHASE)

N.E.C. LOAD SUMMARY

Load Types and Codes	Total Load (VA)	Demand Factor	NEC Sizing Load (VA)
Air Conditioning (AC)		1.00	
Heating (H)		1.00	
Kitchen Equipment (K)		1.00	
Lighting (L)		1.00	
Receptacles (REC)		1.00	
Existing (E)		1.00	
Continuous (C)		1.00	
Non-Continuous (NC)		1.00	
Refrigeration (REF)		1.00	
Elec. Load Totals:			VA

ELECTRICAL DATA

Total Conn. Load: KVA
Total Conn. Load: Amps
NEC Sizing Load: KVA
NEC Sizing Load: Amps
Main Bus Size: 100 Amps

PANEL LEGEND (ID)

ST - Shunt-Trip C.B.; G - GFI C.B.
LB - "Lock-On" C.B.
"C1" - Contactor Designation
--Remodels--
N - New C.B.; EX - Existing C.B.

PANEL INFORMATION

Location: TELEPHONE ROOM G113A
Mounting: Surface Enclosure Type: Nema 1
Fed From: PANEL C
Equipment Ground Bus: Yes Bus Material: Copper
Isolated Ground Bus: No Neutral Size: 100%

PANEL NOTES

NOTE 1 - PANEL SHALL BE DEMOLISHED AT CONCLUSION OF PROJECT
NOTE 2 - SPLICE AND EXTEND CIRCUIT TO NEW PANEL TELE.

Panel Name: C	Panel Voltage: 208Y/120V, 3 Phase, 4 Wire	Existing Panel	Main Lugs Only:	Main Breaker: 200	Panel A.I.C. Rating:

ID	Ckt #	Description	Breaker P	Breaker Trip	Load Code	Load VA	Phase A	Phase B	Phase C	Load VA	Load Code	Breaker Trip	Breaker P	Description	Ckt #	ID
	1														2	
EX	3	FEEDER TO PANEL D	3	100								35	3	AC UNIT	4	EX
	5														6	
EX	7	EXHAUST FAN	1	15								15	1	IT RECEPTACLES - SEE NOTE 1.	8	EX
EX	9	LIGHTING	1	15								15	1	IT RECEPTACLES - SEE NOTE 1.	10	EX
EX	11	IT RECEPTACLES - SEE NOTE 1.	1	15								15	1	LIGHTING	12	EX
EX	13	IT RECEPTACLES - SEE NOTE 1.	1	15								15	1	IT RECEPTACLES - SEE NOTE 1.	14	EX
EX	15	IT RECEPTACLES - SEE NOTE 1.	1	15								30	2	PBX ALTERNATE FEED	16	EX
EX	17	IT RECEPTACLES - SEE NOTE 1.	1	15											18	
EX	19	IT RECEPTACLES - SEE NOTE 1.	1	15								20	1	IT RECEPTACLES - SEE NOTE 1.	20	EX
EX	21	PBX ALTERNATE FEED	2	30								20	1	IT RECEPTACLES - SEE NOTE 1.	22	EX
	23											15	1	EMERGENCY LIGHTS	24	EX

Total Connected Load (VA/PHASE)

N.E.C. LOAD SUMMARY

Load Types and Codes	Total Load (VA)	Demand Factor	NEC Sizing Load (VA)
Air Conditioning (AC)		1.00	
Heating (H)		1.00	
Kitchen Equipment (K)		1.00	
Lighting (L)		1.00	
Receptacles (REC)		1.00	
Existing (E)		1.00	
Continuous (C)		1.00	
Non-Continuous (NC)		1.00	
Refrigeration (REF)		1.00	
Elec. Load Totals:			VA

ELECTRICAL DATA

Total Conn. Load: KVA
Total Conn. Load: Amps
NEC Sizing Load: KVA
NEC Sizing Load: Amps
Main Bus Size: 225 Amps

PANEL LEGEND (ID)

ST - Shunt-Trip C.B.; G - GFI C.B.
LB - "Lock-On" C.B.
"C1" - Contactor Designation
--Remodels--
N - New C.B.; EX - Existing C.B.

PANEL INFORMATION

Location: TELEPHONE ROOM G113A
Mounting: Surface Enclosure Type: Nema 1
Fed From: DNBC-1
Equipment Ground Bus: Yes Bus Material: Copper
Isolated Ground Bus: No Neutral Size: 100%

PANEL NOTES

NOTE 1 - SPLICE AND EXTEND CIRCUIT TO NEW PANEL TELE.

Panel Name: UPS LOAD CENTER	Panel Voltage: 208Y/120V, 3 Phase, 4 Wire	Existing Panel	Main Lugs Only: Yes	Main Breaker:	Panel A.I.C. Rating:

ID	Ckt #	Description	Breaker P	Breaker Trip	Load Code	Load VA	Phase A	Phase B	Phase C	Load VA	Load Code	Breaker Trip	Breaker P	Description	Ckt #	ID
EX	1	PBX-1 SWITCH - SEE NOTE 2	2	30								15	1	IT RECEPTACLES - SEE NOTE 2.	2	EX
	3											15	1	IT RECEPTACLES - SEE NOTE 2.	4	EX
	5	SPACE												SPACE	6	
EX	7	PBX-2 SWITCH - SEE NOTE 2	2	30								15	1	IT RECEPTACLES - SEE NOTE 2.	8	EX
	9											15	1	SPARE	10	EX
	11	SPACE												SPACE	12	
EX	13	SPARE	1	15										SPACE	14	
	15	SPACE												SPACE	16	
	17	SPACE												SPACE	18	
	19	SPACE												SPACE	20	
	21	SPACE												SPACE	22	
	23	SPACE												SPACE	24	
	25	SPACE												SPACE	26	
	27	SPACE												SPACE	28	
	29	SPACE												SPACE	30	

Total Connected Load 120 | 300 | (VA/PHASE)

N.E.C. LOAD SUMMARY

Load Types and Codes	Total Load (VA)	Demand Factor	NEC Sizing Load (VA)
Air Conditioning (AC)		1.00	
Heating (H)		1.00	
Kitchen Equipment (K)		1.00	
Lighting (L)		1.00	
Receptacles (REC)		1.00	
Existing (E)		1.00	
Continuous (C)	420	1.00	420
Non-Continuous (NC)		1.00	
Refrigeration (REF)		1.00	
Elec. Load Totals:	420		420 VA

ELECTRICAL DATA

Total Conn. Load: 0 KVA
Total Conn. Load: 1 Amps
NEC Sizing Load: 0 KVA
NEC Sizing Load: 1 Amps
Main Bus Size: 100 Amps

PANEL LEGEND (ID)

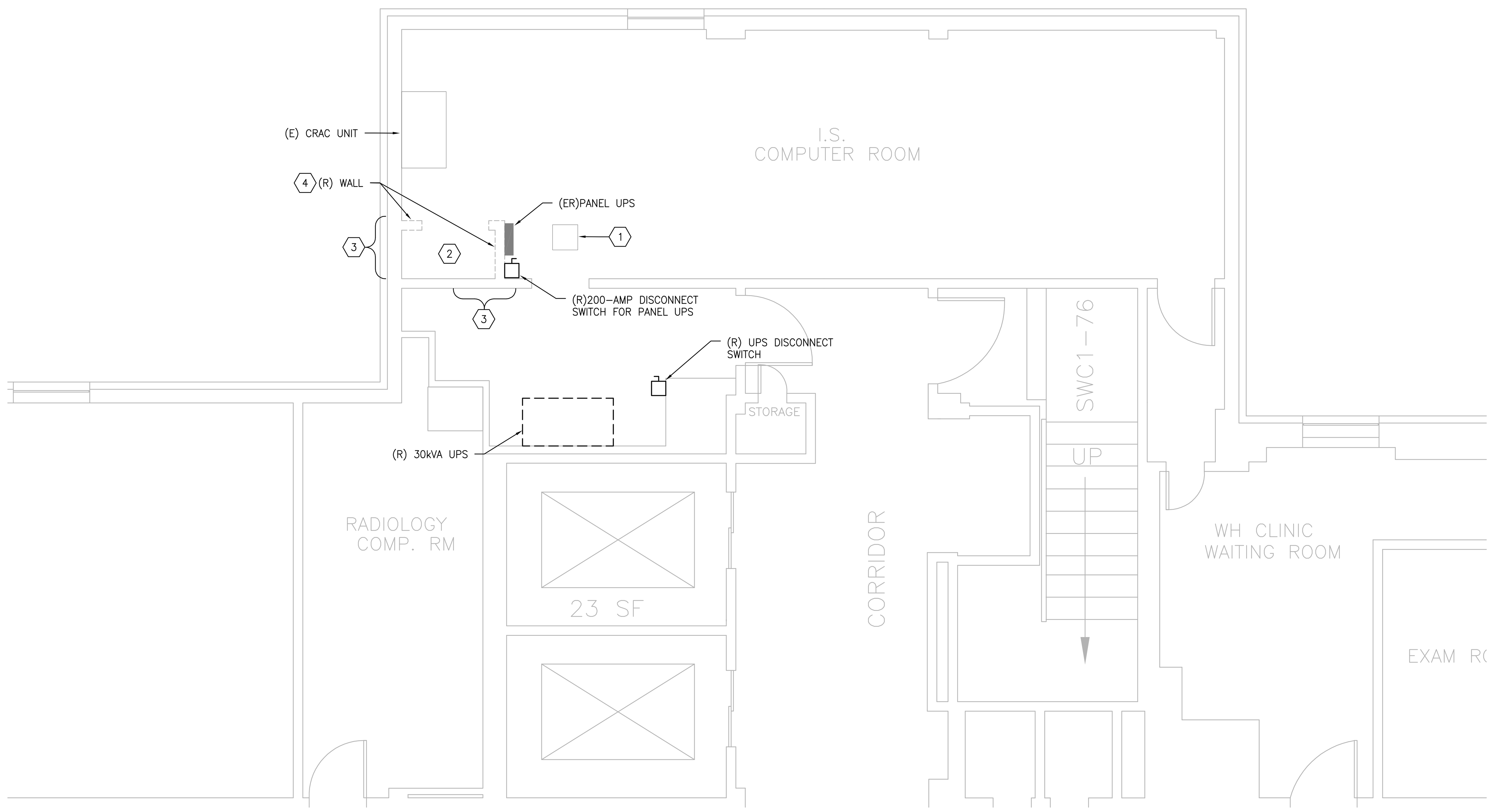
ST - Shunt-Trip C.B.; G - GFI C.B.
LB - "Lock-On" C.B.
"C1" - Contactor Designation
--Remodels--
N - New C.B.; EX - Existing C.B.

PANEL INFORMATION

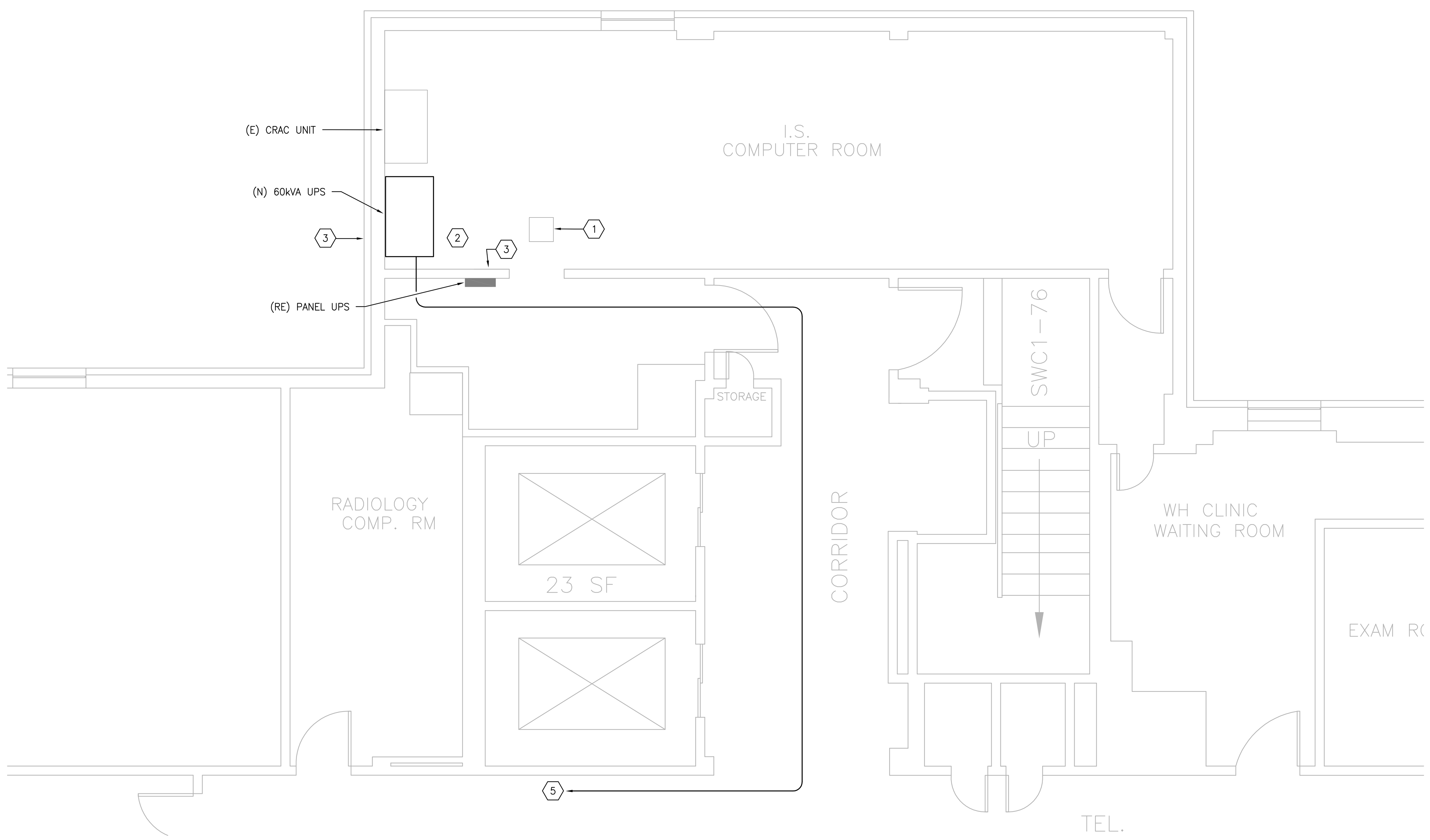
Location: TELEPHONE ROOM G113A
Mounting: Surface Enclosure Type: Nema 1
Fed From: PANEL D
Equipment Ground Bus: Yes Bus Material: Copper
Isolated Ground Bus: No Neutral Size: 100%

PANEL NOTES

NOTE 1 - PANEL TO BE DEMOLISHED AT PROJECT CONCLUSION
NOTE 2 - SPLICE AND EXTEND CIRCUIT TO NEW PANEL TELE



1 FIRST FLOOR DEMOLITION POWER PLAN
SCALE: 1/4" = 1'-0"



2 FIRST FLOOR NEW WORK POWER PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES:

1. SEE DWGS. E001 AND E002 FOR SYMBOLS, GENERAL NOTES, AND ABBREVIATIONS.
2. ALL DEVICES SHOWN ON THE DRAWINGS SHALL BE NEW, UNLESS OTHERWISE NOTED.
3. SEE DRAWING E601 FOR PHASING INTENT OF PROJECT.
4. PROVIDE A CAT 5 CABLE FROM NEW UPS TO NEAREST BUILDING MANAGEMENT SYSTEM (BMS) PANEL FOR MONITORING. FIELD VERIFY LOCATION OF BMS TIE-IN WITH VA PERSONNEL.

SHEET KEYNOTES:

1. LOCATION OF EXISTING LARGE JUNCTION BOX LOCATED BELOW RAISED FLOOR. DURING RELOCATION OF PANEL UPS, BRANCH CIRCUITS SHALL BE EXTENDED FROM THIS JUNCTION BOX TO NEW LOCATION OF PANEL UPS.
2. REPAIR DROPPED CEILING IN THIS AREA AS RELATED TO THE WALL DEMOLITION. PROVIDE NEW 2'x2' CEILING TILES AS REQUIRED AND ENSURE INTEGRITY OF THE CEILING GRID. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING NEW FLOOR TILES WHERE REQUIRED TO PROVIDE A NEW CONDITION FLOORING SYSTEM AS RELATED TO THE WALL DEMOLITION.
3. PATCH WALLS IN THIS AREA AS RELATED TO WALL DEMOLITION AND PAINT ENTIRE AREA OF DEMOLISHED CLOSET TO MATCH EXISTING.
4. REMOVE WALL ALL THE WAY UP TO DECK ABOVE. WALL SITS ON EXISTING RAISED FLOOR.
5. NEW CAT 5 COMMUNICATION CABLE SHALL BE ROUTED FROM NEW UPS TO BUILDING MANAGEMENT SYSTEM PANEL #B76-BCU-2 LOCATED IN 2ND FLOOR ROOM 227A. CAT 5 CABLE SHALL BE RUN IN CORRIDOR ABOVE ACCESSIBLE CEILING AND SHALL TURN UP INTO UTILITY CLOSET ADJACENT TO ROOM 227A. THERE IS DIRECT ACCESS THROUGH THIS UTILITY CLOSET. FIELD VERIFY FINAL LOCATION OF UTILITY CLOSET AND ROOM 227A. APPROXIMATE CAT 5 RUN LENGTH IS 275'.

"CONSTRUCTION BID DOCUMENTS"

FULLY SPRINKLERED

NO.	DESCRIPTION	DATE

CONSULTANTS:

MILLER-REMICK LLC PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

Miller-Remick LLC
M.E.P. & Structural Engineering
A Service Disabled Veteran Owned Small Business
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CHERRY HILL, NEW JERSEY 08034
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SDVOSB

Drawing Title: ELECTRICAL FIRST FLOOR DEMOLITION AND NEW WORK PLANS

Approved: Project Director

Project Title: REPLACE COMP/PBX UPS

Location: VAMC BATH, NEW YORK

Date: 02-03-2014 | Checked: COFONE | Drawn: RONCA

Project Number: 528A6-14-604

Building Number: 76

Drawing Number: EP102

Dwg. 5 of 6

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

GENERAL SHEET NOTES:

1. SEE DWG. E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS.
2. ALL EQUIPMENT SHOWN SHALL BE EXISTING TO REMAIN, UNLESS OTHERWISE NOTED.

SHEET KEYNOTES:

1. PROVIDE NEW CIRCUIT BREAKER IN EXISTING SPACE. MATCH EXISTING BREAKER'S TYPE AND AIC RATING.
2. EXISTING CIRCUITS FROM THIS PANEL, INDICATED ON PANEL SCHEDULES ON DRAWING EP101, SHALL BE SPLICED AND EXTENDED TO NEW PANEL TELE. PROVIDE JUNCTION BOXES AS REQUIRED. MATCH BRANCH CIRCUIT WIRE SIZE.

PHASING NOTES:

PHASE 1:

INSTALL:
- RELOCATE PANEL UPS AND DEMOLISH PANEL UPS DISCONNECT SWITCH. RECONNECT SHORTENED FEEDER TO PANEL UPS. EXTEND ALL BRANCH CIRCUITING FROM LARGE UNDERFLOOR PULLBOX TO NEW LOCATION OF PANEL UPS. MATCH EXISTING WIRE SIZE. ALL RELOCATION WORK SHALL BE ACCOMPLISHED AT NIGHT AND SHALL BE COORDINATED WITH THE VA.

PHASE 2:

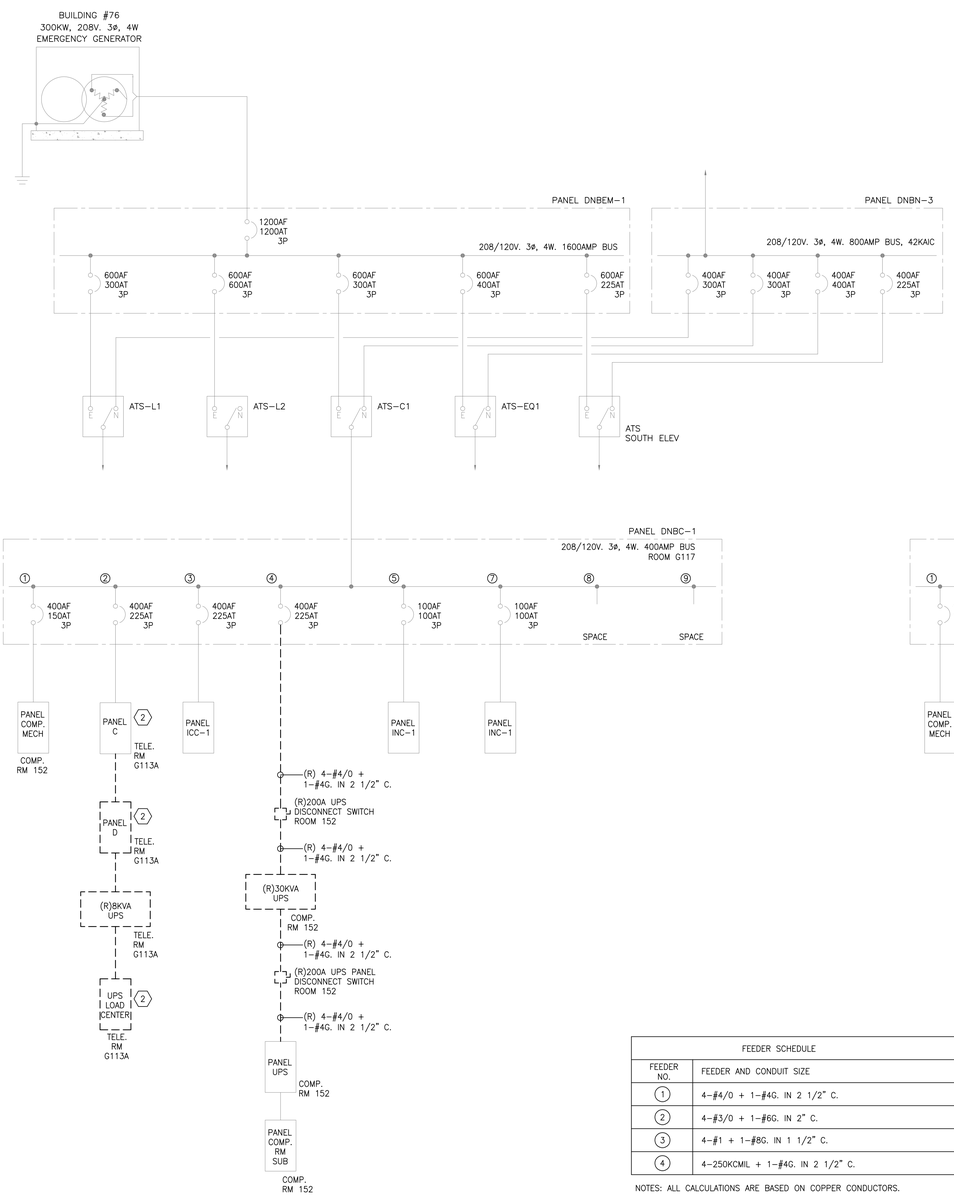
INSTALL:
- COMPLETE WORK ON WALLS WITHIN COMPUTER ROOM 152
- NEW 60 kVA UPS
- PROVIDE NEW CIRCUIT BREAKERS IN (E) PANEL DPNC-1 AND RUN NEW FEEDERS TO NEW 60kVA UPS THROUGH CRAWLSPACE.
- PROVIDE NEW FEEDERS TO (RE) PANEL UPS AND NEW PANEL TELE IN TELEPHONE ROOM G113A. FOR RELOCATED PANEL UPS, COIL CONDUCTORS ABOVE FINAL CONNECTION LOCATION WITH SUFFICIENT SLACK TO TERMINATE AT EXISTING OR RELOCATED EQUIPMENT.
- INSTALL PANEL TELE
- COMPLETE ALL TESTING AND COMMISSIONING OF NEW 60kVA UPS. OUTPUT BREAKER FOR LOAD BANK TESTING SHALL BE PROVIDED.

PHASE 3:

SCHEDULE: - SCHEDULE SHUTDOWN WITH VA AT LEAST 30 DAYS PRIOR TO CUT-OVER.

INSTALL:
- DISCONNECT EXISTING FEEDER AND MAKE FINAL CONNECTIONS FOR NEW FEEDER CONNECTION TO (RE) PANEL UPS IN COMPUTER ROOM 152.
- SPLICE AND EXTEND ALL BRANCH CIRCUITS EARMARKED FOR RECONNECTION TO NEW OR RELOCATED PANELS.
- PROVIDE FINAL UPS TESTING AND COMMISSIONING.

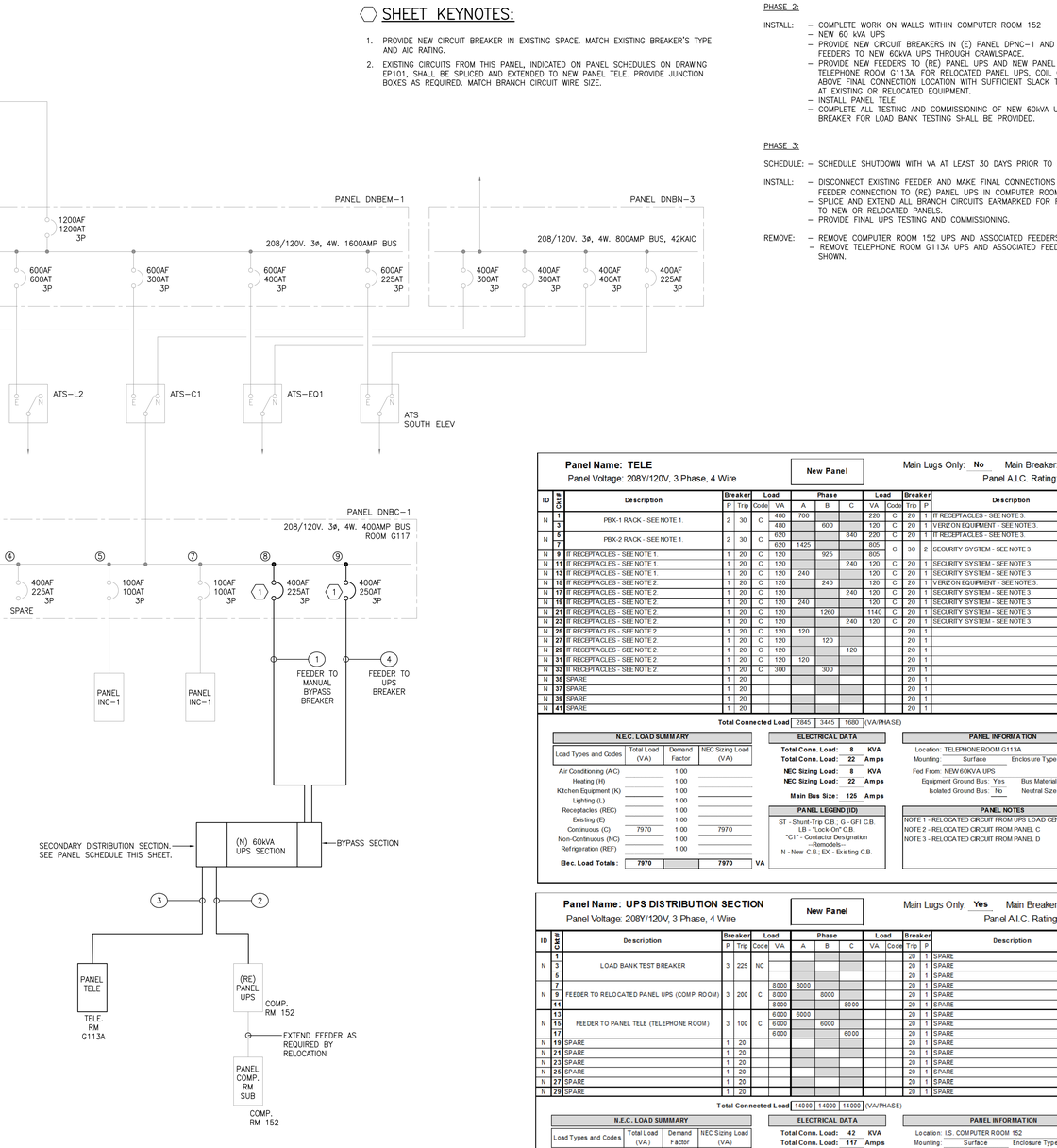
REMOVE:
- REMOVE COMPUTER ROOM 152 UPS AND ASSOCIATED FEEDERS AS SHOWN.
- REMOVE TELEPHONE ROOM G113A UPS AND ASSOCIATED FEEDERS AS SHOWN.



FEEDER SCHEDULE	
FEEDER NO.	FEEDER AND CONDUIT SIZE
1	4-#4/0 + 1-#4G. IN 2 1/2" C.
2	4-#3/0 + 1-#6G. IN 2" C.
3	4-#1 + 1-#8G. IN 1 1/2" C.
4	4-250KCMIL + 1-#4G. IN 2 1/2" C.

NOTES: ALL CALCULATIONS ARE BASED ON COPPER CONDUCTORS.

1 ELECTRICAL DEMOLITION SINGLE LINE DIAGRAM
SCALE: NOT TO SCALE



2 ELECTRICAL NEW WORK SINGLE LINE DIAGRAM
SCALE: NOT TO SCALE

Panel Name: TELE — New Panel
Panel Voltage: 208Y/120V, 3 Phase, 4 Wire
Main Lugs Only: No — Main Breaker: 100
Panel A.I.C. Rating: 22k

ID	% NEC	Description	Breaker P	Trip	Code	Load VA	Phase A	Phase B	Phase C	Load VA	Code	Breaker Trip	P	Description	% NEC	ID
N		1 PBX-1 RACK - SEE NOTE 1.	2	30	C	480	700			220	C	20	1	IT RECEPTACLES - SEE NOTE 3.		2 N
		3				480		600		120	C	20	1	VERIZON EQUIPMENT - SEE NOTE 3.		4 N
N		5 PBX-2 RACK - SEE NOTE 1.	2	30	C	620			840	220	C	20	1	IT RECEPTACLES - SEE NOTE 3.		6 N
		7				620	1425			805	C	30	2	SECURITY SYSTEM - SEE NOTE 3.		8 N
N		9 IT RECEPTACLES - SEE NOTE 1.	1	20	C	120		925		805						10
N		11 IT RECEPTACLES - SEE NOTE 1.	1	20	C	120			240	120	C	20	1	SECURITY SYSTEM - SEE NOTE 3.		12 N
N		13 IT RECEPTACLES - SEE NOTE 1.	1	20	C	120	240			120	C	20	1	SECURITY SYSTEM - SEE NOTE 3.		14 N
N		15 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120		240		120	C	20	1	VERIZON EQUIPMENT - SEE NOTE 3.		16 N
N		17 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120			240	120	C	20	1	SECURITY SYSTEM - SEE NOTE 3		18 N
N		19 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120	240			120	C	20	1	SECURITY SYSTEM - SEE NOTE 3.		20 N
N		21 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120		1260		1140	C	20	1	SECURITY SYSTEM - SEE NOTE 3.		22 N
N		23 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120			240	120	C	20	1	SECURITY SYSTEM - SEE NOTE 3.		24 N
N		25 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120	120					20	1			26 N
N		27 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120		120				20	1			28 N
N		29 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120			120			20	1			30 N
N		31 IT RECEPTACLES - SEE NOTE 2.	1	20	C	120	120					20	1			32 N
N		33 IT RECEPTACLES - SEE NOTE 2.	1	20	C	300		300				20	1			34 N
N		35 SPARE	1	20								20	1			36 N
N		37 SPARE	1	20								20	1			38 N
N		39 SPARE	1	20								20	1			40 N
N		41 SPARE	1	20								20	1			42 N

Total Connected Load: 2845 | 3445 | 1680 (VA/PHASE)

N.E.C. LOAD SUMMARY

Load Types and Codes	Total Load (VA)	Demand Factor	NEC Sizing Load (VA)
Air Conditioning (AC)		1.00	
Heating (H)		1.00	
Kitchen Equipment (K)		1.00	
Lighting (L)		1.00	
Receptacles (REC)		1.00	
Existing (E)		1.00	
Continuous (C)	7970	1.00	7970
Non-Continuous (NC)		1.00	
Refrigeration (REF)		1.00	
Elec. Load Totals:	**7970**		**7970** VA

ELECTRICAL DATA
Total Conn. Load: 8 KVA
Total Conn. Load: 22 Amps
NEC Sizing Load: 8 KVA
NEC Sizing Load: 22 Amps
Main Bus Size: 125 Amps

PANEL LEGEND (ID)
ST - Shunt-Trip C.B., G - GFI C.B.
LB - "Lock-On" C.B.
"C1" - Contactor Designation --Remodels--
N - New C.B., EX - Existing C.B.

PANEL INFORMATION
Location: TELEPHONE ROOM G113A
Mounting: Surface — Enclosure Type: Nema 1
Fed From: NEW 60KVA UPS
Equipment Ground Bus: Yes — Bus Material: Copper
Isolated Ground Bus: No — Neutral Size: 100%

PANEL NOTES
NOTE 1 - RELOCATED CIRCUIT FROM UPS LOAD CENTER
NOTE 2 - RELOCATED CIRCUIT FROM PANEL C
NOTE 3 - RELOCATED CIRCUIT FROM PANEL D

Panel Name: UPS DISTRIBUTION SECTION — New Panel
Panel Voltage: 208Y/120V, 3 Phase, 4 Wire
Main Lugs Only: Yes — Main Breaker:
Panel A.I.C. Rating: 42k

ID	% NEC	Description	Breaker P	Trip	Code	Load VA	Phase A	Phase B	Phase C	Load VA	Code	Breaker Trip	P	Description	% NEC	ID
		1										20	1	SPARE		2 N
N		3 LOAD BANK TEST BREAKER	3	225	NC							20	1	SPARE		4 N
		5										20	1	SPARE		6 N
		7				8000	8000					20	1	SPARE		8 N
N		9 FEEDER TO RELOCATED PANEL UPS (COMP. ROOM)	3	200	C	8000		8000				20	1	SPARE		10 N
		11				8000			8000			20	1	SPARE		12 N
		13				6000	6000					20	1	SPARE		14 N
N		15 FEEDER TO PANEL TELE (TELEPHONE ROOM)	3	100	C	6000		6000				20	1	SPARE		16 N
		17				6000			6000			20	1	SPARE		18 N
N		19 SPARE	1	20								20	1	SPARE		20 N
N		21 SPARE	1	20								20	1	SPARE		22 N
N		23 SPARE	1	20								20	1	SPARE		24 N
N		25 SPARE	1	20								20	1	SPARE		26 N
N		27 SPARE	1	20								20	1	SPARE		28 N
N		29 SPARE	1	20								20	1	SPARE		30 N

Total Connected Load: 14000 | 14000 | 14000 (VA/PHASE)

N.E.C. LOAD SUMMARY

Load Types and Codes	Total Load (VA)	Demand Factor	NEC Sizing Load (VA)
Air Conditioning (AC)		1.00	
Heating (H)		1.00	
Kitchen Equipment (K)		1.00	
Lighting (L)		1.00	
Receptacles (REC)		1.00	
Existing (E)		1.00	
Continuous (C)	42000	1.00	42000
Non-Continuous (NC)		1.00	
Refrigeration (REF)		1.00	
Elec. Load Totals:	**42000**		**42000** VA

ELECTRICAL DATA
Total Conn. Load: 42 KVA
Total Conn. Load: 117 Amps
NEC Sizing Load: 42 KVA
NEC Sizing Load: 117 Amps
Main Bus Size: 225 Amps

PANEL LEGEND (ID)
ST - Shunt-Trip C.B., G - GFI C.B.
LB - "Lock-On" C.B.
"C1" - Contactor Designation --Remodels--
N - New C.B., EX - Existing C.B.

PANEL INFORMATION
Location: I.S. COMPUTER ROOM 152
Mounting: Surface — Enclosure Type: Nema 1
Fed From: EX. PANEL DNBC-1
Equipment Ground Bus: Yes — Bus Material: Copper
Isolated Ground Bus: No — Neutral Size: 100%

PANEL NOTES
UPS distribution section is secondary distribution for and integral to new 60 kVA UPS located in Computer Room 152

"CONSTRUCTION BID DOCUMENTS"
FULLY SPRINKLERED

NO.	DESCRIPTION	DATE

CONSULTANTS:

MILLER-REMICK LLC PROFESSIONAL ENGINEER

ARCHITECT/ENGINEERS:

Miller-Remick LLC
M.E.P. & Structural Engineering
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Drawing Title: ELECTRICAL DEMOLITION AND NEW WORK SINGLE LINE DIAGRAMS
Approved: Project Director
Project Title: REPLACE COMP/PBX UPS
Location: VAMC BATH, NEW YORK
Date: 02-03-2014 — Checked: RONCA — Drawn: RONCA
Project Number: 528A6-14-604
Building Number: 76
Drawing Number: E601
Dwg. 6 of 6

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231